

ABSTRACT OF THE DISCLOSURE

The invention discloses a novel heat shock protein with high homology to chloroplast elongation factor EF-Tu. Also disclosed is a transgenic method for enhancing tolerance to heat and drought in female reproductive organs. It involves the temporal and spatial expression of novel heat shock EF-Tu in a plant organ or plant tissue. The invention also includes expression constructs, and methods for the production of crop plants with heritable phenotypes which are useful in breeding programs designed to increase heat and drought tolerance.